EXAMPLE DATA STREAMS

Tuner 1: X1A1 X2V1 X3PS X4A2 X5V2 X3PS X6A3 X7V3 X3PS X1A1 X2V1 X3PS
.....

| Demux to Interleaver : | X3PS | X3PS | X3PS | X3PS ..... |
| Demux to HDD   : | X1A1 X2V1 | | X1A1 X2V1 | ..... |

Tuner 2 : Y1A1 Y2V1 Y3PS Y4A2 Y5V2 Y3PS Y6A3 Y7V3 Y3PS Y1A1 Y2V1 Y3PS .....

| Demux to Interleaver : | Y3PS | Y3PS | Y3PS | Y3PS ..... |
| Demux to HDD   : | Y4A2 Y5V2 | | | ..... |

HDD to interleaver : Z1A1 Z2V1   Z1A1 Z2V1   Z1A1 Z2V1   .....

Interleaver output : S7A1 S8V1 S3PS S6PS S7A1 S8V1 S3PS S6PS S7A1 S8V1 S3PS S6PS .....

Re-mapping table for use by the interleaver (provided by STB processor):
INPUT TAG : X1 X2 X3 Y4 Y5 Y3 Z1 Z2 .....
OUTPUT TAG : S1 S2 S3 S4 S5 S6 S7 S8 .....

Notice that even if the same codes are in the source streams, since the source is known a different mapping can be assigned.

Nomenclature :

X1,X2 ... Packet identification codes for packets sourced from Tuner 1
Y1,Y2 ... Packet identification codes for packets sourced from Tuner 2
Z1,Z2 ... Packet identification codes for packets sourced from the hard disk drive

A1,A2 ... Audio packet belonging to programme 1,2 ... for the specific tuner
V1,V2 ... Video packet belonging to programme 1,2 ... for the specific tuner
PS ...... System information packet (eg. SI, PSI, ECM, EMM etc.)

NB: There will be many system information packets each with different packet identification codes and clashing between the two sources, all requiring unique re-mapping. Unlike professional remultiplexing equipment, it is not necessary to adjust the contents of the data packets to reflect the remapping of the packet identifiers. Since the remapping is performed with the knowledge and under control of the STB

processor, all necessary information is available to the STB to correctly interpret the packet identifications referred to in the packet data, by reference to the remapping table. This only needs to be done as and when it needs to and not for the entire data stream. It therefor represents a simpler and more cost-effective solution.

Replace the second paragraph, Page 1 with the following amended paragraph

Conventionally, in apparatus such as broadcast data receivers for domestic use for the reception of broadcast video, audio and/or auxiliary data and for the processing of the data for the generation of television ~~programmes~~ programs on a display apparatus connected thereto, the receiver receives and processes a single transport stream of digital data. This single stream of data is transmitted from a remote location in a number of alternative ways but in each case the receiver is typically only able to receive and process a single stream of data. The stream of data may include data relating to audio and video, different ~~programme~~ program channels and so on and the data is identified in packets or groups and split by the receiver into the packets which are then processed in the appropriate manner.

Replace the first paragraph, beginning on line 5, Page 2 with the following amended paragraph

In a first aspect of the invention there is provided a broadcast data receiver apparatus for receiving and processing data from a number of received data transport streams, said data broadcast from a location remote to the receiver, and said receiver incorporating processing means capable of processing a single stream of data and ~~characterised~~ characterized in that said apparatus incorporates means for receiving

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said plurality of data transport streams and processing such that each stream is demultiplexed and re-mapped and selected portions of data from said transport streams are multiplexed into a single transport stream of data for subsequent processing in the receiver by the processing means.

Replace the last paragraph on Page 2 with the following amended paragraph:

Typically the single transport stream which is generated by multiplexing includes selected packets of data from the streams of data received. The packets of data may be selected automatically as they represent data which is required for the system to operate correctly, and/or in response to user selections such as to watch a particular channel, a pre recorded program and/or to record ~~programmes~~ programs and it should be appreciated that another feature of the invention is the ability to split the data from the transport streams and to select to multiplex data into a single stream, store/record

Replace the second paragraph, beginning on line 11, Page 3 with the following amended paragraph:

Typically, the single transport data stream which is generated is presented to a single input component or components in the receiver for further processing and to allow the data to be used to perform the designated function. The designated function can be any or any combination of the generation of video displays, audio displays, recording of programs ~~programmes~~, playback of recorded programs ~~programmes~~,

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generation of electronic program ~~programme~~ guides, linking with internet services, e-mail, interaction with a PC , video and so on.

Replace the first and second paragraphs, beginning on line 1, Page 5 with the following amended paragraphs:

~~utilised~~ utilized for the respective streams to split, route and possibly process the packets of data from the data streams. This allows the subsequent identification and processing, by the receiver, of the PSI and SI information from the first and second transport streams.

Referring once more to the diagram and the example. The Hard Disk Drive 8 is configured to record two programs ~~programmes~~, one from each of the tuners 4,6 and is also a source of data for a pre-recorded program ~~programme~~ which is to be decoded and viewed at that time. In addition auxiliary information from the first and second transport streams is- required to be sent for further processing in the receiver.

Replace the first and second paragraphs, beginning on line 1, Page 6 with the following amended paragraphs:

inserts these packets of data into the multiplexed single transport data stream 16 and the PID's for the packets of data are changed on the basis of the receiver processing knowledge. The receiver can then manage the recording and decryption of the two programs ~~programmes~~ as it is capable of monitoring the PSI/SI and auxiliary data of the two programs ~~programmes~~. It will be noted that the

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demultiplexed data for the programs ~~programmes~~ to be recorded from the demultiplexers is sent to the Hard Disk Drive directly via paths, 20,22. In addition AV data 24 from the Hard Disk Drive is also inserted into the single data stream 16 and, as the receiver is controlling the processing of the data there is no need to construct a PSI table to identify the AV packet identifiers, as the PID's are already known and changed as required by the receiver.

The data provided below indicates the data streams which are generated in response to the example described above wherein the programs ~~programmes~~ to be recorded from the two tuners are represented by the codes X1A1,X2V1 and Y4A2,Y5V2 respectively and are sent to the Hard Disk Drive to be stored. Auxiliary data represented by the codes X3PS and Y3PS is sent from the tuners to be multiplexed with data for -the recorded ~~programme~~ program to be viewed which originates from the Hard disk Drive and is represented by the codes Z1A1 Z2V1. It will be noted how, when the packets of data are multiplexed the PID's are changed to S3PS, S6PS, S7A1, S8V1 respectively

Replace the last paragraph on Page 7 with the following amended paragraph:

Thus the current invention allows existing processing capabilities which can only receive one transport stream of data- to be ~~utilised~~ utilized in apparatus which is adapted in accordance with the invention to receive data from more than one transport stream.

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